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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/779,858

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Frank Meyer

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10/06/2006

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EXAMINER

PONIKIEWSKI, TOMASZ

ART UNIT

PAPER NUMBER

2165

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/779,858	Applicant(s) MEYER, FRANK	
	Examiner Tomasz Ponikiewski	Art Unit 2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>06/09/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. Claims 1-10 are pending.

Claim Objections

2. Claims 1-10 are objected to because of the following informalities:

Claim 1 is objected to for minor informalities: The format of the claim should be changed to be compliant with MPEP. There needs to be a carriage return between elements of a system or steps of a method. See MPEP 608.01(m)

"Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation, 37 CFR 1.75(i)."

Claim 1 is objected to because of the following informalities: in line 4 there is colon (:) missing after the word "comprising".

Claims 1 and 10 make use of single "means" in line 1 and line 2 respectively.
MPEP 2164.08(a) states:

A single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112, first paragraph. In re Hyatt, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983) (A single means claim which covered every conceivable means for achieving the stated purpose was held nonenabling for the scope of the claim because the specification disclosed at most only those means known to the inventor.). When claims depend on a recited property, a fact situation comparable to Hyatt is possible, where the claim covers every conceivable structure (means) for achieving the stated property (result) while the specification discloses at most only those known to the inventor.

Appropriate correction is required.

Claims 2-10 are objected to because of the following informalities: Each of these claims should start with "A" at the beginning of the independent claims and "The" at the beginning of the dependant claims. As such it would indicate a new instance of each independent claim and the dependency of dependent claims. Appropriate correction is required.

Claim 9 recites the word "for" in the claim. It indicates intended use and as such does not carry patentable weight. The word could be changed to recite "to". The limitations following the phrase "for" describes only intended use but not necessarily required functionality of the claim. Limitations following the phrase "for" do not carry patentable weight, which cause the claim to appear as a series of non-functional descriptive material/data without any functional relation with each other. Applicant is required to amend the claim so that the claim limitations are recited in a definite form. For example, "for correctly" should be changed as following: "to correctly" or "that correctly".

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claim 1 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1 do not list any hardware (i.e. computer) tied to the steps in order to store results or operate the steps of the claims therefore resulting in software only implementation. Claim should be amended to include some sort of computer or hardware tied to the body of the claim to realize their functionality.

Claim 1 list computational steps in a program without tangible, useful, concrete result because they do not specify an output at the end of the claims. It is unclear what the end result of the steps of the claim is. The claim has no output or storage to the final step of "subdividing" or "calculating".

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 4-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "predetermined number" in line 7. The limitation is vague and could encompass any range of numbers. Clarification is required.

Claim 8 recites the limitation "discriminating attribute". The examiner is unsure of what that means in term of the invention. There is no definition given in the specification. Clarification is necessary.

Claim 8 recites "i.e. in line 2 rendering the claim indefinite because it is unclear whether the limitations followed the recitation are part of the claimed invention. It is unclear whether the limitation that follows is part of the claim language.

Claims 7 and 10 have underlined text in the claim. The examiner is unsure whether the underlined text is a mistake or has some meaning not described in claim. The underline should be removed.

Claim 5 recites the limitation "a numerical attribute" in line 2. Claim 4 initiates that limitation in lines 2-3. The examiner is not sure if the recitation in claim 5 is separate or the same as in claim 4.

Claim 4 recites the limitation "the binary values" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the median value" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the value" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the binary attribute" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the estimated median value" in lines 6-7. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "the estimated median value" in line 2 and line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "the remaining values" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the binary values" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the modal value" in line 3. There is insufficient antecedent basis for this limitation in the claim.

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Claim 6 recites the limitation "the binary attribute" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the symbolic attribute" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the estimated modal value" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the modal value" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the symbolic values" in lines 3, 5, 8. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the symbolic attribute" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the retained symbolic value" in line 10. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the estimate" in 10. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the modal value" in line 10. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "the most discriminating attribute" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "the other attributes" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "the resulting subset" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "the expectation" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "the conditional probabilities" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "the other attributes" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 recites the limitation "the other attributes" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 recites the limitation "the resulting subsets" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3, 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kohavi et al. (US 6,278,464 B1).

As per claim 1 Kohavi et al. is directed to a method of classifying multivalued data stored in data storage means of a computer system in a descending hierarchy, each datum being associated with particular initial values of attributes that are common to the data, the method comprising recursive steps of subdividing data sets, and wherein, during each step of subdividing a set, discrete values are calculated for the

attributes from the particular initial values of the data attributes of said set, and wherein said set is subdivided into subsets as a function of a homogeneity criterion calculated on the basis of the discrete values for the attributes of said set (column 1, lines 44-45, column 4, lines 50-65, wherein the labels are discrete values, and the split is a function of prediction).

As per claim 2 Kohavi et al. is directed to the step of calculation of discrete values for the attributes, each initial attribute is transformed into a discrete attribute (column 4, lines 50-51).

As per claim 3 Kohavi et al. is directed to binary attribute values are calculated from the particular initial attribute values of the data of said set, and wherein said set is subdivided into subsets as a function of the binary values (column 4, lines 56-59).

As per claim 8 Kohavi et al. is directed to said set is subdivided on the basis of the discrete values of the most discriminating attribute, i.e. the attribute for which a homogeneity criterion for all of the discrete values of the other attributes in the resulting subsets is optimized (column 4, lines 59-65).

As per claim 9 Kohavi et al. is directed to wherein, for any attribute, the homogeneity criterion is an estimate of the expectation of the conditional probabilities

for correctly predicting the other attributes, given knowledge of this attribute (column 4, lines 61-65).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kohavi et al. (US 6,278,464 B1) in view of Chickering (US 6,505,185 B1).

As per claim 4 Kohavi et al. does not teach the step of calculating the binary values for the attributes, for each attribute that is numerical, the median value of the particular initial values of said attribute in the data of said set is estimated and in that the value "true" is given to the binary attribute corresponding to said attribute for a datum of said set if the particular initial value of the numerical attribute of said datum is less than or equal to the estimated median value, else the value "false" is given thereto.

Chickering does teach the step of calculating the binary values for the attributes, for each attribute that is numerical, the median value of the particular initial values of said attribute in the data of said set is estimated and in that the value "true" is given to the binary attribute corresponding to said attribute for a datum of said set if the particular initial value of the numerical attribute of said datum is less than or equal to the

estimated median value, else the value "false" is given thereto (Chickering, column 10, lines 5-12, wherein the equal or more is "true" and less than is given the "false" values).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kohavi et al. by teachings of Chickering to include teach the step of calculating the binary values for the attributes, for each attribute that is numerical, the median value of the particular initial values of said attribute in the data of said set is estimated and in that the value "true" is given to the binary attribute corresponding to said attribute for a datum of said set if the particular initial value of the numerical attribute of said datum is less than or equal to the estimated median value, else the value "false" is given thereto because median calculation is a well known function in the art.

Allowable Subject Matter

11. Claims 5-7 and 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tomasz Ponikiewski whose telephone number is (571)272-1721. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Gaffin can be reached on (571)272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tomasz Ponikiewski
September 2, 2006



CHARLES RONES
SUPERVISORY PATENT EXAMINER